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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/100,799	06/19/1998	HIROAKI KUBO	05058/71301	8949

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EXAMINER

VILLECCO, JOHN M

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/100,799

Applicant(s)

KUBO, HIROAKI

Examiner

John M. Villecco

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-38 is/are allowed.
- 6) ☒ Claim(s) 10-15 and 39-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION II

Response to Arguments

1. With regard to claims 33-38, upon review of the Christopher reference it appears that it does not show the invention as claimed. Therefore, upon an updated search, the claims are deemed to be allowable.

2. Applicant's arguments with respect to claims 10-15 and 39-41 have been considered but are moot in view of the new ground(s) of rejection. Please see the new grounds of rejection presented below.

3. Accordingly, since the examiner relies upon a new rejection, this application is **made non-final.**

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, **such as "means" and "said," should be avoided.** The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 10-11, 15, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parulski (U.S. Patent No. 4,876,590) in view of Nobuoka (U.S. Patent No. 5,534,919).**

7. Regarding claim 10, Parulski discloses an imager that is capable of operating in a high quality image storage mode or a low quality image display mode. The system includes an image sensor (12) for capturing image data, a recorder (56) for capturing and storing image data into a medium, a display (54) for displaying a low resolution image, and a switch (52) for switching between a the low resolution display and the high resolution recorder.

Parulski, however, fails to disclose an interpolation portion for executing interpolation or that the changer changes an interpolation based on whether the image is to be displayed or recorded. Nobuoka, on the other hand, discloses that it is well known in the art to provide an image processor with several different interpolation methods. Nobuoka discloses an image pickup apparatus capable of changing between various interpolation methods. The camera includes a CCD (1) that captures an image and circuitry for executing a varied interpolation method that includes 3 different methods for interpolating pixel data. Furthermore, although not explicitly stated, each of the three interpolation methods uses a different amount of input data when performing interpolation. It is inherent that when more data is used in computing the

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value, the longer the processing time and the higher the quality. The system of Nobuoka, unlike the system of Parulski, uses all of the acquired image data for processing the image. Therefore, it would have been obvious to implement the various interpolation methods of Nobuoka with the system of Parulski so that the system of Parulski uses all of the acquired image data when generating the low resolution image or the high resolution image.

8. Regarding claim 11, it would have been obvious to one of ordinary skill in that art that the use of a faster processing speed when displaying an image is beneficial to a user so that the image can be viewed on a screen faster. Therefore, a faster interpolating process would be beneficial. Additionally, a better interpolation process would be required when recording an image so that a higher quality image is obtained.

9. As for claim 15, Nobuoka discloses that interpolation portion executes interpolation based on each color of the image data.

10. With regard to claim 39, Parulski discloses an imager that is capable of operating in a high quality image storage mode or a low quality image display mode. The system includes an image sensor (12) for capturing image data, a recorder (56) for capturing and storing image data into a medium, a display (54) for displaying a low resolution image, and a switch (52) for switching between a the low resolution display and the high resolution recorder.

Parulski, however, fails to disclose an interpolation portion for executing interpolation or that the changer changes an interpolation based on whether the image is to be displayed or recorded. Nobuoka, on the other hand, discloses that it is well known in the art to provide an image processor with several different interpolation methods. Nobuoka discloses an image pickup apparatus capable of changing between various interpolation methods. The camera

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includes a CCD (1) that captures an image and circuitry for executing a varied interpolation method that includes 3 different methods for interpolating pixel data. Furthermore, although not explicitly stated, each of the three interpolation methods uses a different amount of input data when performing interpolation. It is inherent that when more data is used in computing the value, the longer the processing time and the higher the quality. The system of Nobuoka, unlike the system of Parulski, uses all of the acquired image data for processing the image. Therefore, it would have been obvious to implement the various interpolation methods of Nobuoka with the system of Parulski so that the system of Parulski uses all of the acquired image data when generating the low resolution image or the high resolution image.

11. Regarding claim 40, As for claim 40, as mentioned above, it would have been obvious to one of ordinary skill in that art that the use of a faster processing speed when displaying an image is beneficial to a user so that the image can be viewed on a screen faster. Therefore, a faster interpolating process would be beneficial. Additionally, a better interpolation process would be required when recording an image so that a higher quality image is obtained.

12. As for claim 41, Official Notice is taken as to the fact that gamma correction is a common correction factor in image processing. Gamma correction allows for a clearer more defined image that matches the characteristics of the display being used.

13. **Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parulski (U.S. Patent No. 4,876,590) in view of Nobuoka (U.S. Patent No. 5,534,919) and further in view of Haruki (U.S. Patent No. 5,990,949).**

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14. Regarding claim 12, as mentioned above in the discussion of claim 10, both Parulski and Nobuoka disclose all of the limitations of the parent claim. However, neither of the aforementioned references discloses a gamma correction section for correction a gradation characteristic between recording and displaying. Haruki, on the other hand, discloses that different gamma corrections are carried out for images that are to be displayed on an LCD (36) than image signals that are not. The second gamma correction circuit (24) outputs a different gamma correction for an image to be displayed on an LCD while the first gamma corrected image is sent to the flash memory (28). The ability to apply various gamma corrections to an image depending upon where the image is to be sent allows for a better image on the display device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a gamma correction characteristic depending upon whether the image is to be recorded or displayed.

15. As for claim 13, Haruki discloses that a different gradation characteristic is given to an image signal that is to be sent to an LCD (36) than to an image signal that is to be sent to the flash memory (28).

16. Regarding claim 14, Haruki discloses an LCD (36) on the camera for displaying the image.

Allowable Subject Matter

17. Claims 16-38 are allowed.

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18. Regarding claim 16, the prior art does not teach nor reasonably suggest an imaging device that corrects for both a frequency characteristic and a gradation characteristic according to the image recording mode.

19. As for claim 33 and 37, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest executing an interpolation process based on a selected compression rate.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-6306 (For either formal or informal communications intended for entry. For informal or draft communications, please label **"PROPOSED"** or **"DRAFT"**)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (703) 305-1460. The examiner can normally be reached on Monday through Thursday from 7:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber, can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

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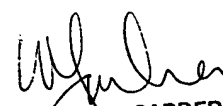
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service desk whose telephone number is (703) 306-0377.



JMV
11/30/02


WENDY R. GARBER
PATENT EXAMINER
TECHNOLOGY CENTER 2600